CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2016
DateRun:	01/04/2016
Experimenters:	Luis Raudales, Alicia McCarthy
ClientType:	Cleaner Manufacturer
ProjectNumber:	Project #7
Substrates:	Ceramics, Plastic, Stainless Steel
PartType:	Coupon
Contaminants:	Films, Soaps
Cleaning Methods:	Manual Wipe
Analytical Methods:	Gravimetric
Purpose:	To evaluate three all-purpose cleaners supplied products for Bathroom Soil SSL-1removal from various surfaces.
Experimental Procedure:	Two cleaners, Lav Safe and Soap Scum, were both received “Ready to Use” (RTU). The third cleaner, Soap Scum Concentrate, was diluted at the recommended 15.6; (1:6.4) with tap water at room temperature (68˚F). Nine pre-weighed coupons per cleaner (three Ceramic, three Plastic and three Stainless steel) were coated with one gram of Bathroom Soil SSL-1 (containing All-in-one shampoo and conditioner 28.6%, Dry skin lotion 21.4%, Liquid hand soap 21.4%, Liquid body wash 14.3%, Deodorant bar soap 7.2% and water 7.1%) at room temperature using a handheld swab. The contaminated coupons were air dried for 24 hours at room temperature and weighed again to determine the amount of soil added the following day. The three coupons of each substrate were placed in the SLW equipment, and a KC Wypal reinforced paper towel was attached to the cleaning sled and soaked with two sprays of cleaning solution. Each coupon was sprayed twice with the same cleaning solution. The cleaning unit was run for 20 cycles (30 sec). At the end of the cleaning cycle, the coupons were wiped once with a dry paper towel. Coupons dried overnight and final weights were recorded. Efficiencies were calculated and recorded. Cleaners evaluated: Soap Scum by EnvirOx; Soap Scum Conc. by EnvirOx, LAV Safe by MD Stetson Co Inc.
Results:	After 20 cycles (30 seconds) on the SLW equipment, Lav Safe was most effective on ceramic and polycarbonate substrates. It had a harder time removing the Bathroom Soil from stainless steel. Soap Scrum RTU was the least effective out of all of the cleaners on all the substrates. Soap Scum Conc. (1:6.4) had similar removal of soil from substrates as Lav Safe and had similar issues with removal of soil from stainless steel.

Cleaner	Substrate	Initial wt	Final wt	% Removed	%Average	%Overall Ave
Soap Scum RTU						
	Ceramic	0.2814	0.0618	78.04	79.47	78.30
		0.3073	0.0831	72.96		
		0.4163	0.0523	87.44		
	Polycarbonate	0.3356	0.1019	69.64	74.95	
		0.3297	0.0456	86.17		
		0.4520	0.1399	69.05		
	Stainless Steel	0.3456	0.0890	74.25	80.48	
		0.3917	0.0529	86.49		
		0.4162	0.0803	80.71		
Soap Scum Conc. (1:6.4)						
	Ceramic	0.2993	0.0572	80.89	80.38	80.71
		0.3033	0.0826	72.77		
		0.3321	0.0415	87.50		
	Polycarbonate	0.3444	0.0213	93.82	90.23	

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		0.3439	0.0258	92.50		
		0.3833	0.0599	84.37		
	Painted metal	0.2760	0.1127	59.17	71.52	
		0.2633	0.0638	75.77		
		0.2764	0.0563	79.63		
Lav Safe						
	Ceramic	0.3419	0.0122	96.43	87.08	85.55
		0.3021	0.0308	89.80		
		0.2934	0.0733	75.02		
	Polycarbonate	0.3354	0.0115	96.57	96.36	
		0.3776	0.0110	97.09		
		0.3386	0.0155	95.42		
	Painted metal	0.3487	0.0907	73.99	73.20	
		0.3077	0.0943	69.35		
		0.3334	0.0221	93.37		

Summary:

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Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
Next-Gen Supply Group	LAV Safe 8	100	85.55	☑	
EnvirOx LLC	Hard Water/Soap Scum Remover	100	78.43	☐	
EnvirOx LLC	Hard Water/Soap Scum Remover	15.6	80.71	☑	

Conclusion:

At the end of the cycle (30 sec), Envirox Soap Scum RTU had the lowest removal rate of the Bathroom Soil SSL-1, followed by the concentrate and the comparative bathroom cleaning product Lav Safe. However, with the standard deviations factored in, the two supplied products could be considered to be comparable to the industry non-green product.